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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,260	10/07/2002	Richard W. Duce	DP-301244	8074
7590 12/09/2003			EXAMINER	
Vincent A Cichosz Delphi Technologies Inc 1450 West Long Lake Road Troy, MI 48007-5052			CYGAN, MICHAEL T	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claims 21 and 22 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-20, drawn to a gas sensor apparatus having either an indented channel (claims 1-6) or a one-piece seal (claims 13-20) and to a method (claims 7-12) of producing a gas sensor having an indented channel, classified in class 73, subclass 23.31.
  - II. Claims 21 and 22, drawn to a gas sensor apparatus having a terminal with a portion creating a spring-like effect depressed against a sensing element, classified in class 73, subclass 31.05.
3. The inventions are distinct, each from the other because of the following reasons:

Inventions I (claims 1-6 and 13-20) and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other

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combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require a terminal with a portion creating a spring-like effect depressed against a sensing element. The subcombination has separate utility such as a sensor element and support structure for diverse types of gas sensors not limited to having a one-piece seal or a specific terminal support structure.

Inventions I (claims 7-12) and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made without the step of disposing a terminal support having an indented channel in a wiring harness.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
5. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 21 and 22 are withdrawn from consideration as being directed to a non-elected invention.

See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 13, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by McClanahan (US 5,329,806). McClanahan discloses the claimed invention, an oxygen sensor having sensing element [40], subassembly [34], upper shield [68], terminal support [64], and ceramic insulator [44] having passageway for receiving terminals [52], and a seal having a hinge portion designed to lock with an edge of the upper shield. See Figures 2 and 3.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-13, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisell in view of McClanahan (US 5,329,806). Kuisell teaches an oxygen sensor comprising sensing element [44], subassembly [50], upper shield [63], ceramic terminal support [72], and alumina insulator [62] having passageway for receiving terminals [66,68], connected in the claimed manner; see Figure 1 and columns 2-5. The terminal support is stated to be comprised of a high temperature ceramic; alumina is given as an example of a high temperature ceramic; see column 4, lines 23-29. A method of providing the above sensor for exposure to engine operating conditions as an exhaust gas sensor is disclosed (column 1, lines 33-39).

Kuisell teaches the claimed invention except for the claimed seal structure and an indented channel in the terminal support, and the use of ceramic fibers as the insulator [62]. McClanahan discloses a similar exhaust sensor having a seal [38] having a hinge portion [70] designed to lock with an edge of the upper shield, and a terminal support having a channel to engage a feature on the terminal; see Figures 2 and 3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the alternative seal design and alternative terminal support structure of McClanahan in the sensor of Kuisell to obtain the seal fixing advantages stated by McClanahan (column 1, lines 41-54), and to obtain the advantage of fixing or restricting the location of the terminal in the support.

With respect to claims 4 and 10, Kuisell teaches the claimed invention, including the use of high temperature durable ceramic fibers as an additional insulator [34], except for the use of ceramic fibers as the insulator [62].

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use high temperature durable ceramic fibers as the insulator [62], since the ceramic fibers are taught to have the properties (support, strength (i.e. durability), high temperature operation, electrical insulation) desired by in the ceramic insulator [62].

8. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuisell in view of McClanahan (US 5,329,806) as set forth in the rejection of claim 13, further in view of Kato (US 5,948,963). The claimed invention is taught as detailed above except for the use of a talc pack separating insulator sections. Kato teaches the use of a talc pack [76] separating insulator sections (column 10, lines 52-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a talc pack to separate insulator sections (note separate insulator sections of McClanahan in Figure 7), since Kato teaches the use of such a layer to provide sealing.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed 21 November 2003 have been fully considered but they are not persuasive. While applicant argues that the '806 patent to McClanahan does not teach a "one-piece seal", Figures 2 and 3 of the '806 patent show a one-piece "cap 38" which has the claimed structure (see column 2 lines 60-64). Note that something that is in "one piece" may have previously been assembled from multiple components; cap 38 is clearly in one piece at the time of joining to the rest of the sensor assembly as shown in Figures 2 and 3. Further note that it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art; see *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



12. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cygan whose telephone number is 703-305-0846. The examiner can normally be reached on 8:30-6 M-Th, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 703-305-4816. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Michael Cygan  
Examiner  
Art Unit 2855